

Andrew Owens

CONTACT INFORMATION	Website: http://andrewowens.com Email: ahowens@umich.edu	EECS 4231 University of Michigan
EDUCATION	Massachusetts Institute of Technology Ph.D., Electrical Engineering and Computer Science Advisors: William Freeman and Antonio Torralba Thesis: <i>Learning Visual Models from Paired Audio-Visual Examples</i>	2013 – 2016
	Massachusetts Institute of Technology M.S., Electrical Engineering and Computer Science Advisors: William Freeman and Antonio Torralba	2010 – 2013
	Cornell University B.A., Computer Science Advisor: Daniel Huttenlocher	2006 – 2010
EXPERIENCE	University of Michigan <i>Assistant Professor</i> Electrical Engineering and Computer Science	2020 – present
	UC Berkeley <i>Postdoctoral Researcher</i> Advisors: Alexei Efros and Jitendra Malik	2016 – 2019
	Microsoft Research , Redmond, WA <i>Research Intern</i> Advisor: Rick Szeliski	Summer 2014
	Google <i>Software Engineering Research Intern</i> Advisor: Sameer Agarwal	Summer 2011
HONORS	Best Paper Award, Honorable Mention. CVPR 2011 RA-L Best Paper Award Finalist, 2018 Microsoft Research Fellowship, 2015 - 2016. NDSEG Fellowship, 2011 - 2014 Best Reviewer Award, ICLR 2018. NSF Graduate Research Fellowship, 2012 (declined) CRA Outstanding Undergraduate Researcher Award – Finalist, 2010	

Preprints:

- [1] Linyi Jin, Shengyi Qian, Andrew Owens, David F. Fouhey. Planar Surface Reconstruction from Sparse Views. *arXiv*, 2021.

Publications:

- [1] Allan Jabri, Andrew Owens, Alexei A. Efros. Space-Time Correspondence as a Contrastive Random Walk. *Neural Information Processing Systems (NeurIPS)*, 2020.
- [2] Triantafyllos Afouras, Andrew Owens, Joon Son Chung, Andrew Zisserman. Self-Supervised Learning Of Audio-Visual Objects From Video. *European Conference on Computer Vision (ECCV)*, 2020.
- [3] Sheng-Yu Wang, Oliver Wang, Richard Zhang, Andrew Owens, Alexei A. Efros. CNN-generated images are surprisingly easy to spot... for now. *Computer Vision and Pattern Recognition (CVPR)*, 2020.
- [4] Tianfan Xue, Andrew Owens, Daniel Scharstein, Michael Goesele, Richard Szeliski. Multi-frame stereo matching with edges, planes, and superpixels. *Image and Vision Computing*, 2019.
- [5] Sheng-Yu Wang, Oliver Wang, Andrew Owens, Richard Zhang, Alexei A. Efros. Detecting Photoshopped Faces by Scripting Photoshop. *International Conference on Computer Vision (ICCV)*, 2019.
- [6] Shiry Ginosar, Amir Bar, Gefen Kohavi, Caroline Chan, Andrew Owens, Jitendra Malik. Learning Individual Styles of Conversational Gesture. *Computer Vision and Pattern Recognition (CVPR)*, 2019.
- [7] Andrew Owens, Alexei A. Efros. Audio-Visual Scene Analysis with Self-Supervised Multisensory Features. *European Conference on Computer Vision (ECCV)*, 2018.
- [8] Minyoung Huh, Andrew Liu, Andrew Owens, Alexei A. Efros. Fighting Fake News: Image Splice Detection via Learned Self-Consistency. *European Conference on Computer Vision (ECCV)*, 2018.
- [9] Roberto Calandra, Andrew Owens, Dinesh Jayaraman, Justin Lin, Wenzhen Yuan, Jitendra Malik, Edward H. Adelson, Sergey Levine. More Than a Feeling: Learning to Grasp and Regrasp using Vision and Touch. *Robotics and Automation Letters (RA-L)*, 2018.
- [10] Xiuming Zhang, Tali Dekel, Tianfan Xue, Andrew Owens, Qiurui He, Jiajun Wu, Stefanie Mueller, William T. Freeman. MoSculp: Interactive Visualization of Shape and Time. *User Interface Software and Technology (UIST)*, 2018.
- [11] Andrew Owens, Jiajun Wu, Josh McDermott, William T. Freeman, Antonio Torralba. Learning Sight From Sound: Ambient Sound Provides Supervision for Visual Learning. *International Journal of Computer Vision (IJCV)*, 2018.
- [12] Roberto Calandra, Andrew Owens, Manu Upadhyaya, Wenzhen Yuan, Justin Lin, Edward H. Adelson, Sergey Levine. The Feeling of Success: Does Touch Sensing Help Predict Grasp Outcomes?. *Conference on Robot Learning (CoRL)*, 2017.

- [13] Wenzhen Yuan, Chenzhuo Zhu, Andrew Owens, Mandayam Srinivasan, Edward H. Adelson. Shape-independent Hardness Estimation Using Deep Learning and a GelSight Tactile Sensor. *International Conference on Robotics and Automation (ICRA)*, 2017.
- [14] Andrew Owens, Jiajun Wu, Josh McDermott, William T. Freeman, Antonio Torralba. Ambient Sound Provides Supervision for Visual Learning. *European Conference on Computer Vision (ECCV)*, 2016.
- [15] Andrew Owens, Phillip Isola, Josh McDermott, Antonio Torralba, Edward H. Adelson, William T. Freeman. Visually Indicated Sounds. *Computer Vision and Pattern Recognition (CVPR)*, 2016.
- [16] Andrew Owens, Connelly Barnes, Alex Flint, Hanumant Singh, William T. Freeman. Camouflaging an Object from Many Viewpoints. *Computer Vision and Pattern Recognition (CVPR)*, 2014.
- [17] David Crandall, Andrew Owens, Noah Snavely, Dan Huttenlocher. SfM with MRFs: Discrete-Continuous Optimization for Large-Scale Structure from Motion. *Transactions on Pattern Analysis and Machine Intelligence (PAMI)*, 2013.
- [18] Andrew Owens, Jianxiong Xiao, Antonio Torralba, William T. Freeman. Shape Anchors for Data-Driven Multi-view Reconstruction. *International Conference on Computer Vision (ICCV)*, 2013.
- [19] Jianxiong Xiao, Andrew Owens, Antonio Torralba. SUN3D: A Database of Big Spaces Reconstructed using SfM and Object Labels. *International Conference on Computer Vision (ICCV)*, 2013.
- [20] David Crandall, Andrew Owens, Noah Snavely, Dan Huttenlocher. Discrete-Continuous Optimization for Large-Scale Structure from Motion. *Computer Vision and Pattern Recognition (CVPR)*, 2011.

Theses:

- [1] Andrew Owens. Learning Visual Models from Paired Audio-Visual Examples. *Ph.D. Thesis, Massachusetts Institute of Technology*, 2016.
- [2] Andrew Owens. Combining Recognition and Geometry for Data-Driven 3D Reconstruction. *M.S. Thesis, Massachusetts Institute of Technology*, 2013.

INVITED TALKS

- Learning Image Forensics
Google Computational Imaging Workshop — March 2020
- Learning Audio-Visual Objects
ECCV Multi-Modal Video Analysis Workshop — August 2020
- Learning Sight from Sound
Oxford University — September 2019
Facebook AI Video Summit — June 2019
CVPR Multimodal Learning and Applications Workshop — June 2019
Google Machine Perception Workshop — October 2018
RSS Workshop on Multi-Modal Perception and Control — May 2018
Toyota Technological Institute Chicago — March 2018
- Audio-Visual Scene Analysis with Self-Supervised Multisensory Features

Oral presentation, ECCV 2018 — September 2018

Self-Supervising Sight, Sound, and Image Forensics
CVPR Workshop, Beyond Supervised Learning — May 2018
University of Southern California — October 2018

Visually Indicated Sounds
Oral presentation, CVPR 2016 — June 2016

Ambient Sound Provides Supervision for Visual Learning
Oral presentation, ECCV 2016 — October 2016

Sound Provides Supervision for Visual Learning
CMU Robotics Institute — April 2016

Camouflaging an Object From Many Viewpoints
Oral presentation, CVPR 2014 — June 2014

Guest Lecture, CS194-26, UC Berkeley — October 2017

Guest Lecture, CS194-26, UC Berkeley — October 2016

PROFESSIONAL ACTIVITIES

Co-organizer, *Sight and Sound* workshop at CVPR 2018, 2019, 2020.

Co-organizer, *Open World Vision* workshop at CVPR 2021.

Co-organizer, *Embodied Multimodal Learning* workshop at ICLR 2021.

Reviewer: CVPR (2015-2021), ICCV (2015, 2017, 2019), ECCV (2016, 2018, 2020), ICLR (2018, 2019), ICRA (2019, 2020), ICML (2017), NeurIPS (2017, 2019), CHI (2018), UIST (2019)

Area Chair: CVPR 2021

STUDENTS SUPERVISED

Daniel Geng. UMich PhD student, 2020 - present.

SELECTED PRESS COVERAGE

In Motion, an art exhibit based on our motion sculpture work. MIT Museum, 2019

MIT Develops a Novel Camouflaging Algorithm That Hides Eyesores. *Wired*, 2014.

MIT researchers built an AI that predicts what the world sounds like. *Quartz*, 2016.

This computer is selecting sound effects for silent videos that seem so real humans can't tell they're fake. *Washington Post*, 2016.

Creating 3D sculptures from 2D video and other news. *BBC*, 2018.

New algorithm can help spot faked photos before they go viral. *New Scientist*, 2018.